PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BC hydro

BRITISH COLUMBIA

Current Status and Potential Enhancement Projects of Selected Small Lakes in the Omineca/Peace Region 1992

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The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

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This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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INTRODUCTION:

The primary goal of the small lakes program is to increase and diversify the angling opportunities within the Williston Watershed and nearby surrounding area. This is accomplished through the identification and implementation of viable fisheries enhancements, working within the context of the Provincial Fisheries Strategic Plan. Enhancements may take the form of sport fish introductions (hatchery or transplant), lake fertilization, lake aeration, chemical treatment, or habitat improvements (habitat complexing, barrier removal, artificial inlet or upwelling station creation etc.).

To achieve the primary goal of this program, various levels of investigation for individual lakes are required. These investigations identify enhancement opportunities that can be followed up in the future, and also create or add to Provincial and Regional lakes data bases. This information can then be utilized for resource management purposes.

The type of information collected by Compensation Program staff must meet standard Fisheries Branch requirements. The most detailed investigation undertaken is a Lake Inventory study. This involves assessment of physical, chemical, and biological characteristics of a lake and its immediate watershed. The goals of this type of study are to identify potential enhancements, and provide detailed baseline information for future studies. Another detailed research format is the Fisheries Evaluation study. These may be performed years after Lake Inventories have been completed and focus on the present fish population (wild or stocked). The potential exists to identify enhancement opportunities that were either not identified, not required at present, or not feasible at the time of the original survey. The third type of examination focuses on the specific enhancement potential of selected small lakes. This type of examination may take the form of a survey of an outlet or inlet stream, or a winter oxygen series, etc.

To date the Peace Fisheries Compensation Program has conducted 32 Lake Inventory studies and 17 Fishery Evaluation studies (1989-1992). In addition 11 other lakes have received less extensive study (Figure 1).

Management decisions such as implementation of stocking programs, restrictive regulations etc. are the responsibility of B.C. Environment, Lands and Parks, Fisheries Branch. Results of these small lake investigations and recommendations made by the Compensation Program staff contribute to the development of management plans required of the Fisheries Branch.

The following brief summary highlights the information obtained for all 60 lakes investigated by the Peace Fisheries Compensation Program. In addition, all previous information collected by the Ministry of Environment, Lands and Parks, has been incorporated in each lake summary. Recommendations, and potential future enhancements are also presented with each lake. Table 1 presents projected activities for each lake (1993-1996).

Lake Inventory, and Fisheries Evaluation studies, are followed with the initials of the organization which conducted the study. Peace Fisheries Compensation Program is represented by P.F.C.P., while M.E.L.P. denotes the Ministry of Environment, Lands and Parks.

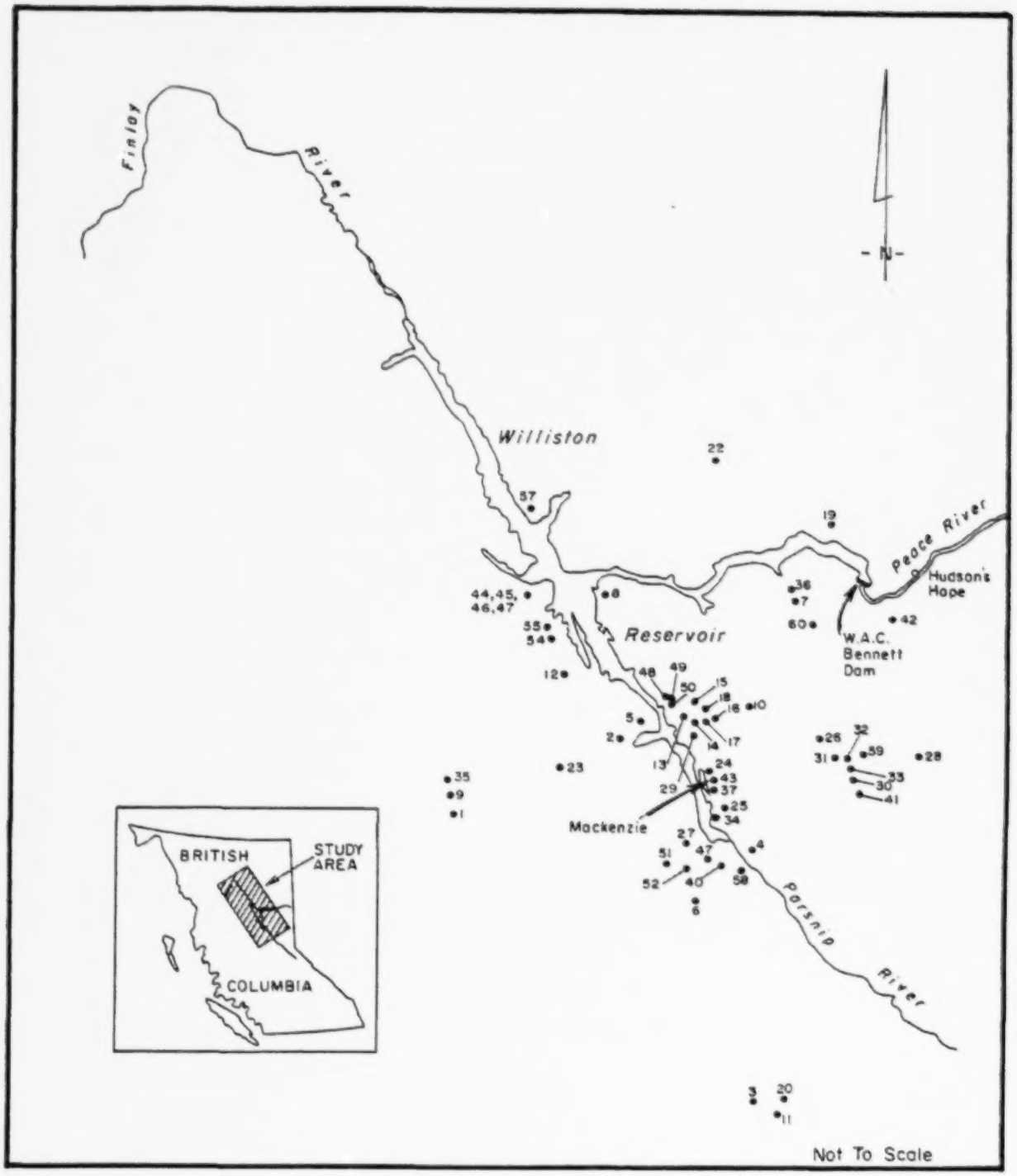

Figure 1. Lake locations (approximate). Lakes have been identified by numbers which correspond to those provided in the accompanying text.

TABLE 1
PROJECTED ACTIVITIES FOR EACH LAKE
(1993-1996)

Lake Name	Inventory	Fisheries Evaluation		Enhancement		Physical Enhancmt. Evaluation	Comments
		Stocking Assess.	Enhancement Investigation	Stocking *	Physical		
ALBERT		'96	'95				
BLACKWATER	'90'						
BOOT							
BRUCE		'93					ACCESS? BT INTRODUCTIONS?
BURDEN		'95		'93,'94,'95,96 (RB)			BT or RB (PENNASK)INTRODUCTIONS?
BUTTERNUT		'95		'93,'94,'95 (RB)			
CARBON			'93				SPAWNING LOCATION CONTRACT
CANTY		'94		'94 (RB)			OUTLET RECRUITMENT?
CALAIS							
CLEARWATER							BD REMOVAL, REGULATIONS
CRYSTAL		'93	'93	'93,'94,'95,'96 (BT & RB)			ALL FEMALE PENNASK INTRODUCTIONS
CURVE					'93		
DINA #1		'95		'93,'94,'95,'96 (BT & RB)	'93,'94?	'95	BOATING ACCESS IMPROVEMENT
DINA #2		'95		'93,'94,'95,'96 (BT)	?		REC. SITE DEVELOPMENT?
DINA #3		'96		'93,'94,'95 (RB)	'95	'96	
DINA #5							
DINA #6	'93						
DINA #7		'96		'93,'94,'96 (RB)			TROPHY FISHERY, REGULATIONS
DUNLEVY							
EMERALD				'93,'94,'95,'96 (RB)			ALL FEMALE PENNASK INTRODUCTIONS?
EMERSLUND (UPPER)	'93						
EMERSLUND (LOWER)	'93						
FINGER			'94				
GANTAHAZ		'95		'93,'94,'95,'96 (BT)		'95	
GATAIGA							
GRIZZLY				'93?			
GRAYLING			'93		'94?		ACCESS IMPROVEMENT?
GWILLUM							
HEATHER		'96		'93,'94,'95,'96 (RB)			BLACKWATER INTRODUCTIONS
KELLY							
LE MORAY #1							POTENTIAL ENHANCEMENTS - NO ACCESS

Lake Name	Inventory	Fisheries Evaluation		Enhancement		Physical Enhancmt. Evaluation	Comments
		Stocking Assess.	Enhancement Investigation	Stocking	Physical		
LE MORAY #2							POTENTIAL ENHANCEMENTS - NO ACCESS
LE MORAY #3							POTENTIAL ENHANCEMENTS - NO ACCESS
LIONS		'96		'93,'94,'95,'96 (RB)		'93	BLACKWATER INTRODUCTIONS?
LITTLE CALAIS		'95		'92(GR) '93(GR)			
LITTLE CARBON				'93 (RB) ?			
LOST	'93						
MANSON (LOWER)							FUTURE KOKANEE EVALUATION
MANSON (UPPER)							FUTURE KOKANEE EVALUATION
MCINTYRE							POTENTIAL ENHANCEMENT - NO ACCESS (1993?)
MICHELLE							POTENTIAL ENHANCEMENTS - NO ACCESS
MOBERLY							
MORFEE		'95	'93	'94,'95,'96 (RB)	'93		
MUSCOVITE #1							
MUSCOVITE #2							
MUSCOVITE #3							
MUSCOVITE #4							
POTHOLE #1		'94		'93/95(RB)			POTENTIAL ENHANCEMENT, PENNASK INTRODUCTIONS?
POTHOLE #2							
POTHOLE #3							
ROBINSON			'93				
ROYER							POTENTIAL ENHANCEMENT - NO ACCESS (1993?)
SABAI		'95		'93,'94,'95,'96 (RB)			BLACKWATER INTRODUCTIONS?
SHOAL #1							
SHOAL #2							
SHOAL #3							
TOBIN		'93	'93				
WINDY POINT				'93,'95(RB)		'93	CONTRACT TO OPERATE PUMP -'93
WOLF	'93						
WRIGHT		'95	'93	'94(RB)			

* Projected stocking requests, Omineca/Peace Region, Fish & Wildlife Branch, Prince George and Fort St. John, B.C.

(1) **Albert Lake**

- Identified as potential stocking candidate in 1990. (P.F.C.P.)
- Stocked in 1991 (rainbow trout).
- Potentially a self-sustaining population created as spawning and rearing habitat was noted in the 1990 survey. For this reason the lake has received only the one time stocking in 1991.
- Recommend Fisheries Evaluation study in 1995 to assess the stocking program.

(2) **Blackwater Lake**

- Lake Inventory study conducted in 1990. (P.F.C.P.)
- No feasible enhancements identified.
- Recommend continuance of monitoring and managing wild rainbow trout population.
- Blackwater creek (outlet of the lake) was used as a rainbow trout brood stock collection source for the once operational, Hudson's Hope Hatchery.

(3) **Boot Lake**

- Lake Inventory study conducted in 1988. (M.E.L.P.)
- No spawning habitat located.
- Stocking program initiated in 1986 (rainbow and/or brook trout).
- Outlet investigated for potential enhancements in 1992. (P.F.C.P.)
- No enhancements identified.

(4) **Bruce Lake**

- Lake Inventory study conducted in 1989. (P.F.C.P.)
- Stocking program recommended, no other feasible enhancements identified.
- Stocked in 1989 (rainbow trout).
- Potential also exists for brook trout introductions.
- Recommend Fisheries Evaluation study in 1993 to monitor the stocking program.
- Stocking program ceased after the initial 1989 introductions. Program may be re-instituted pending creation of improved angler access.

(5) Burden Lake

- Stocking program initiated in 1977 (rainbow trout).
- Lake Inventory study conducted in 1983. (M.E.L.P.)
- Fisheries Evaluation study conducted in 1991. (P.F.C.P.)
- The 1991 study centered on:
  - (a) Identification of potential enhancement projects.
  - (b) Determination if changes to the current stocking program are required.
- No feasible enhancements identified.
- Stocking program appears successful. Detailed recommendations with regard to stocking program alterations can not be made until total angler use, and catch per unit effort is determined.
- Recommend stocking which provides same frequency and density of fish, until 1995, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Potential exist for brook trout or All Female Pennask rainbow trout introductions.
- Recommend Fisheries Evaluation study in 1995 to moniter the stocking program.

(6) Butternut Lake

- Lake Inventory study conducted in 1990. (P.F.C.P)
- Stocked in 1991 (rainbow trout).
- Recommend stocking program which provides same frequency and density of fish, until 1995, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Recommend Fisheries Evaluation study in 1995 to evaluate the stocking program.
- Access created by B.C. Forest Service in 1992.
- Potential exists to dam outlet and create a brook trout fishery.
- Lake Rehabilitation possible should stocking program be unsuccessful (See report for details).

(7) Carbon Lake

- Lake Inventory study conducted in 1981. (M.E.L.P.)
- Fisheries Evaluation study conducted in 1990/92. (P.F.C.P.)
- 1990/92 studies centred on identification of potential enhancement projects, and monitoring of wild rainbow, and lake trout populations.
- First closed to ice fishing in 1991/92.
- Recommend Public Awareness program; placement of lake trout life cycle and current population status signs.
- Recommend tendering contract to investigate rainbow trout spawning locations.
- Recommend continuance of monitoring and managing of wild rainbow, and lake trout populations.

(8) Canty Lake

- Lake Inventory study conducted in 1989. (P.F.C.P.)
- Winter oxygen data collected in 1989/90.
- Stocked in 1990 (rainbow trout).
- Recommend Fisheries Evaluation study in 1994 to:
  (a) evaluate the stocking program.
  (b) determine if the outlet creek is providing natural recruitment back into Canty Lake.
- Recommend stocking program which provides identical frequency and density of fish, until 1994, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Recommend management as per regional high elevation small lake stocking strategy.

(9) Calais Lake

- Fisheries Evaluation study conducted in 1992. (P.F.C.P.)
- The 1 992 study was centred on determining if Calais Lake was capable of supporting an Arctic grayling "refuge" population.
- Little Calais Lake (located 300 m. upstream of Calais Lake) was selected as an Arctic grayling "refuge" lake over Calais Lake due to it's smaller size, and higher quality and quantity of spawning locations.

(10) Clearwater Lake

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Lake Inventory study conducted in 1991. (P.F.C.P.)
- Beaver dam removal possible on outlet.
- Regulation changes, and/or restrictions of further access development, should be considered.
- Recommend continuance of monitoring and managing wild bull trout population.

(11) Crystal Lake

- Lake Inventory study conducted in 1961 and 1968. (M.E.L.P.)
- No rainbow trout spawning habitat located.(No inlets/outlets)
- Stocking program initiated 1976 (rainbow and/or brook trout).
- Fisheries Evaluation study conducted in 1984. (M.E.L.P.)
- The 1984 study centred on evaluating the stocking program.
- Investigated in 1992 for the potential of creating an artificial spawning inlet. (P.F.C.P.)
- Recommend Fisheries Evaluation study (in 1993) to determine the extent of a possible spawnbound condition.
- If spawnbound condition present, artificial inlet creation possible in 1994, pending cost/benefit analysis.
- Alternate fish introductions such as, solely brook trout, or later maturing all female Pennask rainbow trout could be considered.

(12) Curve Lake

- Lake Inventory study conducted in 1989. (P.F.C.P.)
- Recommend initiating a beaver dam breaching program in 1993.
- Recommend continuance of monitoring and managing wild rainbow trout population.

(13) Dina Lake #1

- Lake Inventory study conducted in 1979 and 1983. (M.E.L.P.)
- Stocking program initiated 1980 (rainbow and/or brook trout).
- No rainbow trout spawning habitat noted in the 1983 study.
- Fisheries Evaluation study conducted in 1991. (P.F.C.P.)

- The 1991 study centred on:
  (a) Identification of potential enhancement projects.
  (b) Determination if changes to the current stocking program are required.
- Potential inlet enhancements identified:
  (1) Coarse fish barrier installation in 1992.
  (2) New culvert installed at road crossing in 1992.
  (3) Beaver dam breaching/maintenance in 1992 and 1993.
  (4) Habitat complexing in 1992 and 1993.
  (5) Permanent coarse fish barrier installation in 1993.
  (6) "Beaver Stop" construction on culvert at road crossing in 1993.
- Stocking program appears successful. Detailed recommendations with regard to stocking program alterations can not be made until total angler use, and catch per unit effort is determined.
- Recommend stocking program which provides identical frequency and density of fish introductions, until 1995, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Recommend Fisheries Evaluation study of inlet enhancement success, and the stocking program in 1995.

(14) Dina Lake #2

- Lake Inventory study conducted in 1970 and 1977. (M.E.L.P.)
- Stocking program initiated in 1984 (brook trout).
- Fisheries Evaluation study conducted in 1991. (P.F.C.P.)
- The 1991 study was centred on:
  (a) Identification potential enhancement projects.
  (b) Determination if changes to the current stocking program are required.
- Stocking program appears successful. Detailed recommendations with regard to stocking program alterations can not be made until total angler use, and catch per unit effort is determined.

- Recommend stocking program which provides identical frequency, density and strain of fish until 1995, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Investigate potential recreation site development (B.C. Forest Service).
- Dina Lake #2 outlet creek is the same creek as Dina Lake #1 inlet.
- Future enhancements may be conducted on the immediate outlet, pending the results of enhancement work planned for the lower 350 m of the outlet creek, (see Dina Lake #1)
- Recommend Fisheries Evaluation study in 1995 to evaluate the stocking program.

(15) Dina Lake #3

- Winter oxygen data collected in 1990/91 and 1991/92. (P.F.C.P.)
- Lake Inventory study conducted in 1992. (P.F.C.P.)
- Stocked in 1992 (rainbow trout)(with Mackenzie Fish and Game Association).
- Recommend gravel placement on the inlet creek (scheduled for winter of 1994/95).
- Habitat complexing recommended on the inlet creek (with Mackenzie Fish and Game Association) in 1995.
- Recommend implementation of a stocking program which provides identical frequency, and density of fish introductions, until 1996, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Recommend Fisheries Evaluation study in 1996 to:
  (a) Evaluate the success of the inlet enhancement project.
  (b) Evaluate the stocking program.

(16) Dina Lake #5

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Lake Inventory study conducted in 1991. (P.F.C.P.)
- No enhancements identified.

(17) Dina Lake #6

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Recommended for future Lake Inventory study.

(18) Dina Lake #7

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Lake Inventory study conducted in 1991. (P.F.C.P.)
- Stocked in 1992 (rainbow trout)(with Mackenzie Fish and Game Association).
- Recommend implementation of a stocking program which provides identical frequency, density of fish until 1996, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Recommend Fisheries Evaluation study in 1996 to evaluate the stocking program.

(19) Dunlevy Lake

- Winter oxygen data collected in 1989/90. (P.F.C.P.)
- Lake Inventory study conducted in 1989. (P.F.C.P.)
- No feasible enhancements identified due to the lakes low winter oxygen levels.

(20) Emerald Lake

- Lake Inventory study conducted in 1983. (M.E.L.P.)
- No rainbow trout spawning habitat located (no inlets/outlets).
- Stocking program initiated in 1984 (rainbow trout).
- Fisheries evaluation conducted in 1985 to moniter stocking program
- Investigated in 1992 to examine the possibility of constructing an artificial spawning inlet. (P.F.C.P.)
- Spawning inlet creation not presently feasible due to high cost, and lack of security.
- Stocking with all female Pennask rainbow trout, or brook trout, could be considered.

(21) **Emerslund Lake (Upper)**

- Recommended for future Lake Inventory study.
- Known to support wild fish.

(22) **Emerslund Lake (Lower)**

- Recommended for future Lake Inventory study.
- Known to support wild fish.

(23) **Finger Lake**

- Lake Inventory study conducted in 1990. (P.F.C.P.)
- No enhancements identified.
- Recommend continuance of monitoring and managing wild rainbow trout population.
- Recommend an attempt to identify rainbow trout spawning location(s) in 1994. A potential enhancement project may result.

(24) **Gantahaz Lake**

- Lake Inventory study conducted in 1970. (M.E.L.P.)
- Stocking program initiated in 1976 (brook trout).
- Fisheries Evaluation study conducted in 1991. (P.F.C.P.)
- The 1991 study was centred on:
  (a) Identification of potential enhancement projects.
  (b) Determination if changes to the current stocking program are required.
- Stocking program appears successful. Detailed recommendations with regard to stocking program alterations can not be made until total angler use, and catch per unit effort is determined.
- Recommend stocking program which provides identical frequency, density and strain of fish until 1995, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Spawning gravel placed near shoreline in 1992.
- Winter creel survey conducted December 1992. February 1993.

- Recommend Fisheries Evaluation study in 1995 to:
  (a) Evaluate success of gravel placement project.
  (b) Evaluate the stocking program.

(25) Gataiga Lake

- Lake Inventory study conducted in 1991. (P.F.C.P.)
- *No* feasible enhancements identified.
- Recommend continuance of monitoring and managing wild rainbow trout population.

(26) Grizzly Lake

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Lake Inventory study conducted in 1991. (P.F.C.P.)
- Potential for rainbow trout transplant (scheduled for 1993) if suitable donor stock is identified.
- Potential exists for a self-sustaining population as spawning locations were noted.
- B.C. Forest Service has expressed interest in providing trail access if lake is stocked.

(27) Grayling Lake

- Lake Inventory study conducted in 1990. (P.F.C.P.)
- Recommend continuance of monitoring, and managing, wild rainbow trout stocks.
- Recommend investigating the following in 1993:
  (1) Potential of beaver dam removal on outlet.
  (2) Potential coarse fish barrier installation on outlet.
  (3) Potential of habitat complexing on inlet.
- If feasible, carry out above enhancements in 1994.
- Recommend trail upgrading (B.C. Forest Service).

(28) **Gwillum Lake**

- Major Fisheries Evaluation study conducted in 1989/90, investigated potential for a walleye population.
- Management plan to be developed in cooperation with B.C. Parks.
- Wild fish management a priority.

(29) **Heather Lake**

- Lake Inventory study conducted in 1970. (M.E.L.P.)
- Stocked in 1972, 1981, and 1983 (rainbow trout).
- Fisheries Evaluation conducted in 1984 revealed that the rainbow trout were not surviving well, probably due to the abundance of coarse fish (M.E.L.P.)
- Lake Inventory study conducted in 1989. (P.F.C.P.)
- The 1989 study centred on:
  (a) Assessing the potential of lake rehabilitation.
  (b) Identification of other potential enhancement projects.
- Lake Rehabilitation not recommended due to high cost and impossibility of a total kill.
- Recommend implementation of a stocking program utilizing Blackwater rainbow trout.
- Stocked in 1992 (rainbow trout, Premier Stock).
- Recommend Fisheries Evaluation study in 1996 to assess the stocking program.

(30) **Kelly Lake**

- Winter oxygen data collected in 1991/92. (P.F.C.P.)
- Lake Inventory study not warranted (shallow/low oxygen).

(31) **LeMoray Lake # 1**

- Winter oxygen data collected in 1990/91. (M.E.L.P.)
- Lake Inventory study conducted in 1991. (P.F.C.P.)
- Potential for sport fish introduction (transplant) exists if suitable donor stock is identified.

- Potential exists for spawning habitat improvements on inlet/outlets, pending possible access and fish introductions.
- Recommend investigating potential of recreation site development and trail creation by B.C. Forest Service.

(32) LeMoray Lake #2

- Winter oxygen data collected in 1991/92. (P.F.C.P.)
- Lake Inventory study conducted in 1992. (P.F.C.P.)
- Potential for sport fish introduction (transplant) exists if suitable donor stock is identified.
- Potential exists for flow consolidation, stream clearance, and spawning habitat improvements on inlet #1, and spawning habitat improvement, and stream clearance on the outlet, pending possible access and fish introductions.
- Recommend investigating potential of recreation site development and trail creation by B.C. Forest Service.

(33) LeMoray Lake #3

- Winter oxygen data collected in 1991/92. (P.F.C.P.)
- Lake Inventory study conducted in 1992. (P.F.C.P.)
- Potential for sport fish introduction (transplant) exists if suitable donor stock is identified.
- Potential exists for flow consolidation, stream clearance and spawning habitat improvements on the outlet, and spawning habitat improvement on inlet #1, pending possible access and fish introductions.
- Recommend investigating potential of recreation site development and trail creation by B.C. Forest Service.

(34) Lions Lake

- Fisheries Evaluation study conducted in 1984. (M.E.L.P.)
- The 1984 study was centred on assessing current rainbow trout stocks.
- Lake Inventory study conducted in 1985. (M.E.L.P.)
- Stocked in 1988, and 1992 (rainbow trout).
- Fisheries Evaluation study conducted in 1989. (P.F.C.P.)

- The 1989 study was centred on:
  (a) Assessing the potential of lake rehabilitation.
  (b) Assessing the potential of an outlet enhancement project.
- Lake rehabilitation not recommended due to high cost, and impossibility of a total kill.
- Recommend implementation of a stocking program utilizing Blackwater rainbow trout.
- Outlet enhancements undertaken to date:
  (1) Beaver dam removal in 1990.
  (2) Bridge construction (Mack. Secondary School Forest Ed. Program) in 1990.
  (3) Habitat complexing in 1991.
  (4) Improvements to approach and bridge structure in 1991.
- Recommend evaluating success of the outlet enhancements in 1993.
- Recommend Fisheries Evaluation study in 1996 to evaluate the stocking program.

(35) Little Calais Lake

- Winter oxygen data collected in 1991/92. (P.F.C.P.)
- Lake Inventory study conducted in 1992. (P.F.C.P.)
- The 1992 study was undertaken to determine if the lake was capable of supporting an Arctic grayling "refuge" population.
- Arctic grayling (62) transplanted into the lake in 1992 (Nation River donor stock).
  Second grayling transplant scheduled for 1993.
- Recommend evaluation of the transplant program in 1995.

(36) Little Carbon Lake

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Lake Inventory study conducted in 1991. (P.F.C.P.)
- Recommend implementation of a rainbow trout stocking program (requested for 1993).
- B.C. Forest Service has expressed interest in providing trail access pending stocking.

(37) Lost Lake

- Recommended for winter oxygen data collection in 1992/93.
- Recommended for a Lake Inventory study in 1993, pending winter oxygen results.

(38) Manson Lake (Lower)

- Lake Inventory study conducted in 1979. (M.E.L.P.)
- Fisheries Evaluation study conducted in 1991 to identify potential enhancement projects. (P.F.C.P.)
- No enhancements identified or neccessary at present.
- Recommend continuance of monitoring wild salmonid populations.
- Recommend Fisheries Evaluation study in the future as a kokanee population may result from the Manson River kokanee stocking program initiated in 1990.

(39) Manson Lake (Upper)

- Lake Inventory study conducted in 1979. (M.E.L.P.)
- Fisheries Evaluation study conducted in 1991 to identify potential enhancement projects. (P.F.C.P.)
- No enhancements identified or neccessary at present.
- Recommend continuance of monitoring wild salmonid populations.
- Recommend Fisheries Evaluation study in the future as a kokanee population may result from the Manson River kokanee stocking program initiated in 1990.

(40) McIntyre Lake

- Lake Inventory study conducted in 1989. (P.F.C.P.)
- Potential outlet enhancements (pending access - 1993?):
  (1) Beaver dam removal.
  (2) Coarse fish barrier installation.
  (3) Gravel placement.
- Recommend continuance of monitoring and managing wild rainbow trout stocks.

(41) Michelle Lake

- Winter oxygen data collected in 1991/92. (P.F.C.P.)
- Lake Inventory study conducted in 1992. (P.F.C.P.)
- Potential for sport fish introduction (transplant) exists if suitable donor stock is identified.
- Donor stock search tentatively scheduled for 1993.
- Recommend collection of bathometry data in 1993.
- Inlet/outlet gravel placement possible, pending access.
- Removal of vertical bedrock drop (0.38 m.) at lake outlet possible if access improved.
- B.C. Forest Service has expressed interest in providing trail access, pending fish introductions.

(42) Moberly Lake

- Major Fisheries Evaluation study conducted in 1989/90, investigated potential for a walleye population.
- Inventoried inlet watershed in 1992.
- Management plan to be developed in cooperation with West Moberly, Saulteau Indian bands, and other interested parties.
- Wild fish stock management a priority.

(43) Morfee Lake

- Lake Inventory study conducted in 1970, and 1976. (M.E.L.P.)
- Stocking program initiated in 1976 (rainbow and/or lake trout).
- Lake trout stocking program ceased in 1978.
- Fisheries Evaluation study conducted in 1991/92. (P.F.C.P.)
- The 1991/92 studies centred on:
  (a) Identification of potential enhancement projects.
  (b) Determination if changes to the current stocking program are required.
- Stocking program appears successful. Detailed recommendations with regard to stocking program alterations can not be made until total angler use, and catch per unit effort is determined.
- Recommend stocking program which provides identical frequency, density and strain of fish until 1995, or time of next Fisheries Evaluation

study. This would facilitate improved stocking program recommendations.

- Recommend stabilizing banks (on outlet) with existing material at outlet in 1993.
- Recommend investigating Morfee L. outlet and Morfee C. to verify the presence/absence of spawners and investigate enhancement potential.
- Recommend Fisheries Evaluation study in 1995 to monitor the stocking program.

(44) Muscovite Lake #1

- Winter oxygen series collected in 1990/91. (P.F.C.P.)
- Future Lake Inventory not presently under consideration due to limited access and remote location.

(45) Muscovite Lake #2

- Winter oxygen series collected in 1990/91. (P.F.C.P.)
- Future Lake Inventory not presently under consideration due to limited access and remote location.

(46) Muscovite Lake #3

- Winter oxygen series collected in 1990/91. (P.F.C.P.)
- Future Lake Inventory not presently under consideration due to limited access and remote location.

(47) Muscovite Lake #4

- Winter oxygen series collected in 1990/91. (P.F.C.P.)
- Future Lake Inventory not presently under consideration due to limited access and remote location.

(48) Pothole Lake #1

- Lake Inventory study conducted in 1979. (M.E.L.P.)
- Stocking program initiated in 1980 (rainbow trout).
- Fisheries Evaluation Study/Inventory conducted in 1989. (P.F.C.P.)

- The 1989 studies centred on:
  (a) Identification of potential enhancement projects.
  (b) Determination if changes to the current stocking program are required.
- Stocking program appears successful. Detailed recommendations with regard to stocking program alterations can not be made until total angler use, and catch per unit effort is determined.
- Recommend stocking program which provides identical frequency, density and strain of fish until 1993, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Potential exists for the construction of a small solar powered upwelling station, pending results from Windy Point Lake upwelling station.
- Recommend Fisheries Evaluation study in 1993 to evaluate the stocking program.

(49) Pothole Lake #2

- Winter oxygen data collected in 1991/92. (P.F.C.P.)
- Lake Inventory study not recommended due to low winter oxygen levels.

(50) Pothole Lake #3

- Winter oxygen data collected in 1991/92. (P.F.C.P.)
- Lake Inventory study not recommended due to low winter oxygen levels.

(51) Robinson Lake

- Lake Inventory study conducted in 1989. (P.F.C.P.)
- Recommend investigation (scheduled for 1993) into potential of replacing beaver dam at lake outlet with permanent water control structure and coarse fish barrier.
- Recommend continuance of monitoring and managing wild rainbow trout stocks.

(52) Royer Lake

- Lake Inventory study conducted in 1989. (P.F.C.P.)
- Recommend outlet habitat complexing, pending access (1993?).
- Recommend continuance of monitoring and managing wild rainbow trout stocks.

(53) Sabai Lake

- Lake Inventory study conducted in 1987. (M.E.L.P.)
- Fisheries Evaluation study conducted in 1990. (P.F.C.P.)
- The 1990 study was centred on identifying potential enhancement projects.
- No feasible enhancement potential on inlet noted.
- Recommend stocking with Blackwater rainbow trout.
- Stocking program initiated in 1991 (Premier rainbow trout).
- Recommend instituting *a* stocking program which provides identical frequency, density and strain of fish until 1995, or time of next Fisheries (Evaluation study. This would facilitate improved stocking program recommendations.
- Recommend Fisheries Evaluation study in 1995 to evaluate the stocking program.

(54) Shoal Lake #1

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Future Lake Inventory not presently under consideration due to lack of access.

(55) Shoal Lake #2

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Lake Inventory study conducted in 1991. (P.F.C.P.)
- No enhancements identified.

(56) Shoal Lakes #3

- Winter oxygen data collected in 1990/91. (P.F.C.P.)
- Future Lake Inventory not presently under consideration due to lack of access.

(57) Tobin Lake

- Lake Inventory study conducted in 1981. (M.E.L.P.)
- Winter oxygen data collected in 1989/90. (P.F.C.P.)
- Lake Inventory study conducted in 1989. (P.F.C.P.)
- Recommend further investigation into the enhancement potential of Inlet #2. (see Tobin Lake report for details)
- Stocked in 1989 (rainbow trout).
- Recommend Fisheries Evaluation study in 1993 to examine enhancement potential of Inlet #2, and evaluate the stocking program.

(58) Windy Point Lake

- Partial Lake Inventory study conducted in 1961. (M.E.L.P.)
- Lake Inventory study conducted in 1968. (M.E.L.P.)
- Stocking program initiated in 1970 (rainbow trout).
- Fisheries Evaluation study conducted in 1983 to evaluate the stocking program. (M.E.L.P.)
- Lake Inventory study conducted in 1989 to identifying potential enhancement projects. (P.F.C.P.)
- Upwelling station (to eliminate the spawnbound condition) installed in 1992.
- Recommend tendering a contract to operate upwelling station (pump) in 1993.
- Provided B.C. Forest Service with partial funding to create recreation site in 1992.
- Stocking program appears successful. Detailed recommendations with regard to stocking program alterations can not be made until total angler use, and catch per unit effort is determined.
- Recommend stocking program which provides identical frequency, density and strain of fish until 1994, or time of next Fisheries Evaluation study. This would facilitate improved stocking program recommendations.
- Recommend a Fisheries Evaluation study in 1994 to evaluate:
  (a) the success of the upwelling station.
  (b) the stocking program.

(59) Wolf Lake

- Winter oxygen data collected in 1990/91. (M.E.L.P.)
- Recommended for future Lake Inventory study.

(60) Wright Lake

- Winter Oxygen data collected in 1990/91. (P.F.C.P.)
- Lake Inventory study conducted in 1990. (P.F.C.P.)
- Stocked in 1991 (rainbow trout).
- Recreation site and trail access developed by the B.C. Forest Service in 1992.
- Recommend investigating the potential of the following enhancement projects in 1993:
  (1) Excavating a deeper channel between main lake body and the bay/marsh area to allow fish passage to outlet.
  (2) Spawning gravel addition and habitat complexing on outlet.
- Recommend Fisheries Evaluation study in 1995 to evaluate the stocking program.